

## WHAT IS CLAIMED IS

1. A system for collecting and recording product data on a plurality of products, the system comprising:
  - a server computer, the server computer comprising a storage device and a processor;
  - a database, the database storing product data on a plurality of products, wherein product data includes process capability information for each product of the plurality of products;
  - an application to manage entry, storage and retrieval of process capability information in the database by a user, the application being stored in the storage device of the server computer, and the application further comprising:
    - a product information section, the product information section comprising means for providing, updating and reviewing process capability information for a product;
    - a file management section, the file management section comprising means for performing a bulk transfer of process capability information for at least one product; and
    - a report generation section, the report generation section comprising means for generating at least one report using the process capability information in the database; and
  - a client computer in communication with the server computer, the application being accessible by the user on the client computer.
2. The system of claim 1 wherein the product information section further comprises:
  - means for providing, updating and reviewing source information on a product source;
  - means for providing, updating and reviewing product information on a product; and
  - means for providing, updating and reviewing characteristic information on a product.

3. The system of claim 2 wherein:

the means for providing, updating and reviewing source information further comprises means for designating a product source; and

source information includes site information, code information, name information and a product list of products produced by the designated product source.

4. The system of claim 3 wherein:

the product information section further comprises means for selecting a product from the product list of the designated product source;

product information includes number information, drawing information, and description information for the selected product; and

the means for providing, updating and reviewing product information further comprises:

means for assigning a product to the designated product source;

means for removing a product from the designated product source; and

means for retrieving product information from the database for a product based on number information provided by the user.

5. The system of claim 3 wherein:

the product list includes a list of characteristics for each product in the product list;

the product information section further comprises means for selecting a product and a characteristic from the product list of the designated product source;

characteristic information includes name information, type information, specification information, requirement information, and tolerance information; and

the means for providing, updating and reviewing characteristic information further comprises:

means for assigning a characteristic to the selected product;  
and

means for removing a characteristic from the selected product.

6. The system of claim 1 wherein:

the file management section further comprises means for selecting a product source;

the means for performing a bulk transfer of process capability information further comprises:

means for selecting at least one product from the selected product source for a transfer of process capability information;

means for providing, updating and reviewing product data and process capability information for the selected at least one part;

means for uploading the provided and updated product data and process capability information to the server computer; and

means for updating the database with the uploaded product data and process capability information from the server computer.

7. The system of claim 6 wherein:

the product data further includes characteristic information for each product of the plurality of products;

the file management section further comprises means for downloading the characteristic information for at least one product selected by a user; and

the means for performing a bulk transfer of process capability information further comprises means for correcting errors in the uploaded product data and process capability information.

8. The system of claim 1 wherein:

the client computer and the server computer are connected by an Extranet;

the application is executable in a web browser and is accessed from a web portal on the Extranet;

the at least one report comprises at least one of a Cpk status report, an age of data report, a defects per million opportunities summary report and a defects per million opportunities trend report; and

the means for generating at least one report further comprises means for customizing the at least one report.

9. A computer program product embodied on a computer readable medium and executable by a computer for collecting and recording product data on a plurality of products, the computer program product comprising:

a database, the database storing product data on a plurality of products, wherein product data includes process capability information for each product of the plurality of products;

a characteristic system, the characteristic system comprising means for entering process capability information for a product in the database by a user;

a file management system, the file management system comprising means for performing a bulk transfer of process capability information for at least one product to the database by the user; and

a report generation system, the report generation system comprising means for generating at least one report using the product data in the database.

10. The computer program product of claim 9 wherein the characteristic system further comprises:

means for entering source information on a source of a product by the user;

means for entering product information on a product by the user; and

means for entering characteristic information on a product by the user.

11. The computer program product of claim 10 wherein:

the means for entering source information further comprises means for designating the source of a product; and

source information includes site information, code information, name information and a product list of products produced by the designated source.

12. The computer program product of claim 11 wherein:

the characteristic system further comprises means for selecting a product from the product list of the designated source;

product information includes number information, drawing information, and description information for the selected product; and

the means for entering product information on a product further comprises:

means for updating previously entered product information;

means for assigning a product to the designated source;

means for removing a product from the designated source; and

means for retrieving product information from the database for a product based on the number information provided by the user.

13. The computer program product of claim 11:

the product list includes a list of characteristics for each product in the product list;

the characteristic system further comprises means for selecting a product and a characteristic from the product list of the designated source;

characteristic information includes name information, type information, specification information, requirement information, and tolerance information; and

the means for entering characteristic information on a product further comprises:

means for updating previously entered characteristic information;

means for assigning a characteristic to the selected product; and

means for removing a characteristic from the selected product.

14. The computer program product of claim 9 wherein the means for performing a bulk transfer of process capability information further comprises:

means for selecting at least one product for a transfer of process capability information;

means for updating product data for the selected at least one part;

means for uploading the updated product data to the server computer;

and

means for updating the database with the uploaded product data from the server computer.

15. The computer program product of claim 14 wherein:

product data further includes characteristic information for each product of the plurality of products;

the file management system further comprises means for downloading the characteristic information for at least one product selected by the user; and

the means for performing a bulk transfer of process capability information further comprises:

means for generating a report on results of the upload of the updated product data; and

means for correcting errors in the uploaded product data.

16. The computer program product of claim 9 wherein:

the user includes at least one of an internal user and external supplier;

the means for entering process capability information further comprises means for updating previously entered process capability information; and

the means for generating at least one report further comprises means for customizing the at least one report.

17. A method of collecting data on a manufactured product from a source, the method comprising the steps of:

identifying important characteristics of a product;

developing a process plan for manufacturing the product using the important characteristics and a plan for data collection on the product using the important characteristics;

evaluating each measurement system for measuring product data in the data collection plan for the product;

collecting first product data on the product according to the data collection plan in response to a positive evaluation of each measurement system;

evaluating the manufacturing process plan based on the collected first product data;

collecting second product data on the product according to the data collection plan in response to a positive evaluation of the manufacturing process plan based on the collected first product data;

evaluating the manufacturing process plan based on cumulative collected product data;

storing the cumulative collected product data in a database in response to a positive evaluation of the manufacturing process plan based on the cumulative collected product data;

collecting additional product data on the product according to the data collection plan; and

repeating the steps of evaluating the manufacturing process plan based on cumulative collected product data, storing the cumulative collected product data in a database in response to a positive evaluation of the manufacturing process plan and collecting additional product data on the product according to the data collection plan.

18. The method of claim 17 wherein the step of evaluating each measurement system for measuring product data in the data collection plan for the product further comprises the steps of:

performing a reproducibility and repeatability study on selected measurement systems to determine a percent of process variation for the selected measurement systems;

evaluating the percent of process variation with respect to at least one predetermined tolerance value;

repairing or replacing the selected measurement systems in response to a negative evaluation of the percent of process evaluation; and

repeating the steps of performing a reproducibility and repeatability study on selected measurement systems, evaluating the percent of process variation with respect to at least one predetermined tolerance value and repairing or replacing the selected measurement systems in response to a negative evaluation of the percent of process evaluation until a positive evaluation of the selected measurement systems is obtained.

19. The method of claim 17 further comprising the steps of:

making improvements to the manufacturing process in response to at least one of a negative evaluation of the manufacturing process plan based on the collected first product data and a negative evaluation of the manufacturing process plan based on cumulative collected product data;

incorporating the improvements to the manufacturing process into the manufacturing process plan;

making amendments to the data collection plan in response to the improvements in the manufacturing process plan; and

re-evaluating each measurement system for measuring product data in the amended data collection plan for the product.

20. The method of claim 17 further comprising the steps of:

determining process capability information from the cumulative collected product data, wherein the process capability information includes at least one process capability index; and

storing the determined process capability information in the database in response to a positive evaluation of the manufacturing process plan based on the cumulative collected product data.